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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/914,478 08/24/2001 Stefan Scherer 1999 DE 304 8080

25255 7590 01/15/2002

CLARIANT CORPORATION
4331 CHESAPEAKE DR
ATTN: INDUSTRIAL PROPERTY DEPT
CHARLOTTE, NC 28216

EXAMINER

ZUCKER, PAUL A

ART UNIT	PAPER NUMBER
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1623

DATE MAILED: 01/15/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/914,478

Applicant(s)

SCHERER ET AL.

Examiner

Paul A. Zucker

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 10 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 10 recites the limitation "where appropriate" in line 2. The phrase "where appropriate" renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

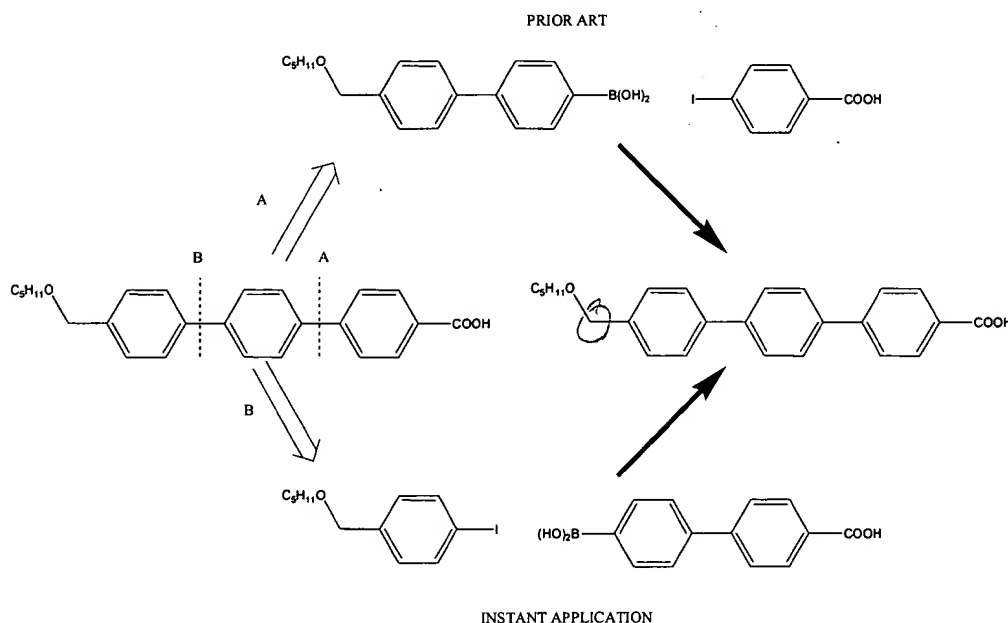
3. Claim 11 is rejected under 35 U.S.C. 102(b) as being anticipated by Henle et al (US 5,693,611 12-1997). Henle discloses (Column 14, lines 30-49) the instant claimed compound 4-pentyloxyboronic acid. Henle therefore anticipates instant claim 11.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Balkovec et al (US 5,948,753 09-1999) and further in view of Miyaura et al (Chemical Reviews 1995, 95, pages 2457-2483) and further in view of Henle et al (US 5,693,611 12-1997). Balkovic discloses (Column 19, line 1 - column 20, line 14) a method for the synthesis of 4''-(n-pentyloxy)-[1,1':4',4''-terphenyl]-4-carboxylic acid via the Suzuki coupling reaction according to the figure below.



Balkovic discloses (Column 19, lines 3-25) a process that is defined by retrosynthetic path A above and in the instant case the pathway corresponding to

retrosynthetic path B is selected. The chemistry disclosed by Balkovic is the same as that used in the instant case the palladium-catalyzed Suzuki reaction. Whichever retrosynthetic pathway is followed the same result would be expected and thus the instant process is simply an example of an analogous process which produces the expected result. Balkovic further discloses (Column 19, line 63-column 20, line 14) the reaction of 4-iodobenzoic acid with 4-(4-n-pentyloxyphenyl) boronic acid in ethanol/toluene in the presence of aqueous sodium carbonate and a palladium catalyst at 180 °C. Balkovic further discloses (Column 19, lines 44-61) the synthesis of the boronic acid via the reaction of the lithiated biphenyl with triisopropylborate followed by hydrolysis. Balkovic is silent with regard to the use of borate esters in the coupling reaction although the examiner notes that at 180°C in refluxing toluene in the presence of ethanol (typical esterification conditions) it seems likely that the diethyl borate ester would form under Balkovic's conditions. Balkovic is also silent with regard to the use of an organomagnesium compounds to make the borate esters. Miyaura, however, teaches (Page 2458, right column, lines 1-15 and page 2470, equation (76) at bottom left) the use of borate esters (cyclic and acyclic) formed from the corresponding grignard reagents as reactants in the palladium-catalyzed cross coupling reaction to give biaryls. Thus it would have been obvious for one of ordinary skill in the art to have performed the instant invention at the time applicant asserts it was made. The motivation would have to been to modify the process of Balkovic for the synthesis of an important intermediate required for the synthesis of an antifungal compound (Henle, Column 1, line 1 – column 2 lines 65)

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to use the readily available boronic acid disclosed by Henle (Column 14, lines 30-49).

5. Claims 1-11 are outstanding. Claims 1-11 are rejected.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul A. Zucker whose telephone number is 703-306-0512. The examiner can normally be reached on Monday-Friday 7:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Geist can be reached on 703-308-1701. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4556 for regular communications and 703-308-4556 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1235.



PAZ
January 7, 2002

GARY GEIST
SUPERVISORY PATENT EXAMINER
TECH CENTER 1600